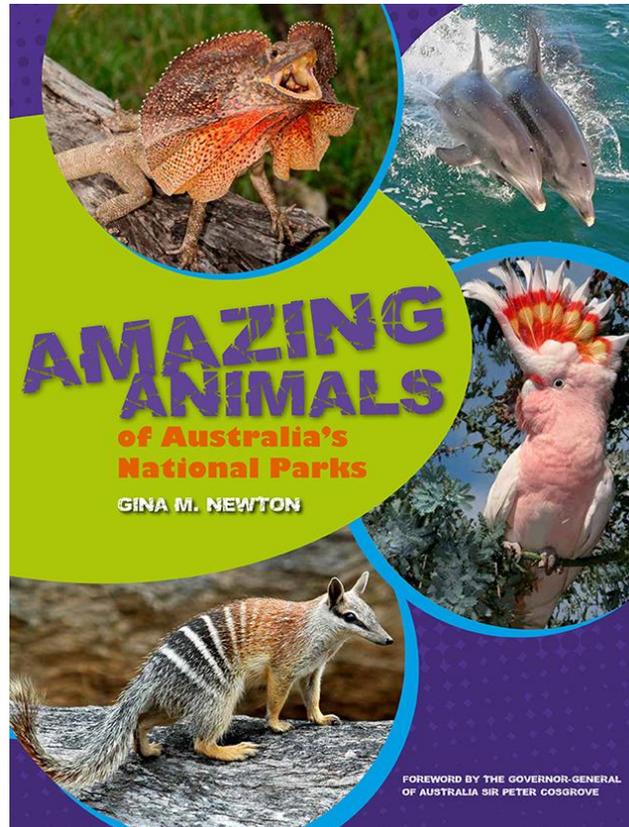


TEACHERS' NOTES: YEAR 3 (AGES 8–9)  
*Amazing Animals of Australia's National Parks*  
by Gina M. Newton

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Gina is a marine biologist, zoologist and science communicator with over 30 years' experience. She is a past president of the Australian Marine Sciences Association. She is particularly passionate about raising awareness of Australia's unique environment and biodiversity. Gina is also a popular children's book author.

## AUSTRALIAN CURRICULUM LINKS (version 8.2)

Living things can be grouped on the basis of observable features and can be distinguished from non-living things. ([ACSSU044](#))

- recognising the range of different living things
- recognising characteristics of living things such as growing, moving, sensitivity & reproducing

Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends. ([ACSI057](#))

- using provided tables to organise materials and objects based on observable properties
- discussing how to graph data presented in a table
- identifying and discussing numerical and visual patterns in data collected from students' own investigations and from secondary sources

## Background information for teachers

Animals are living things and there is a variety of different types of animals. Australia is a special place as animals have evolved here in isolation for over 50 million years. This has resulted in Australia having a rich diversity of unique animals—'native' animals—that are found nowhere else in the world. Animals that are alike will have common features, such as all birds have a bill (or beak). Within each habitat section in the book, animals are grouped according to their type, for example: reptiles, frogs, birds, marsupials and placental mammals. There are also two fish.

Two important characteristics of animals are their ability to move around in their habitat and their ability to reproduce and have young. Animals move around in their environment in order to find essential requirements for living, such as food, water and sometimes air. They also move to find protection or to defend their territory from others. At certain times of the year, they move to find a mate so that they can reproduce and have young. Or, they may move (or regularly migrate) to find a suitable habitat within which to have their young. Living things reproduce to create similar organisms to themselves in order to ensure the perpetuation of the species through time. Different types of animals have different ways of reproducing and produce different numbers of young. These differences are interesting to investigate and discuss and may relate to things such as habitat requirements, how safe the young are when they are born/hatch, and the extent to which the parents look after the young.

## Activities

### 1. Scene Setting

Have a discussion with the class so that students understand and can differentiate between living and non-living things, and between plants and animals in the environment. Remind students that in science, 'living' is used to describe anything that is now or has ever been 'alive'. For example, a log on the ground would be classified as a once 'living' thing. All living things will eat (or take on nourishment somehow), breathe, grow, excrete waste, respond to stimuli in their environment, move and reproduce. Animals are a very important kind of living thing. There are many types of animals and they can be grouped together according to common features that their bodies have. In order to survive, most animals must move around and reproduce (have young). Have a discussion with the students about why an animal might need to move. Is the movement within a home range? Is the movement a regular migration?

### 2. Key Glossary Words

Students look up these words in the glossary of the book and copy at least one into their books: bill; home range; migrate; native; species; supernumerary (young); territory.

### 3. Investigating

- Using the book, students look through the Forest, Arid Zone, and Wetlands & Waterways habitat sections and choose one of each animal type (fish, reptile, frog, bird, marsupial, placental mammal). Using the information in the 'What's its life like?' section and the photos, students answer five key questions about each animal they have selected:
  - What type of skin or body covering does it have (e.g. smooth skin, scales, feathers or fur)?
  - What does it move with (e.g. 2 legs, 4 legs, 2 legs and wings, etc.) and how?
  - What does it use mostly to eat with (e.g. mouth, tongue, bill, jaws, teeth)?
  - How does the animal reproduce (e.g. live young (fully formed), live young (undeveloped), eggs, tadpoles, etc.)?
  - How many young does the animal have when it reproduces?
- Students choose one animal and identify one thing about its body that no other animal type has got (e.g. pouch for a marsupial, bill for a bird or platypus).
- Students investigate movement further by looking at the home ranges of ten different marsupials from any habitat section in the book.

#### 4. Recording & Presenting

- In small groups of 2–4 or individually, students draw up a table (see Table 1) or alternatively the teacher could provide a blank table, with the type of animal across the top (e.g. Reptile–Thorny Devil), and the 5 questions down the side (e.g. 1 What Skin?, 2 How Move?, 3 How Eat?, 4 How Reproduce, 5 Number of Young?). Students record their answers on the table.
- Students make a drawing of an animal and label the special features it has.
- Students make a table of home range against total body length for the ten marsupials they have chosen from any habitat (see Table 2). Body length (usually the total body length) is given by the ruler symbol in the Fast Facts section of each animal page. In the table, students put the animals in order from the smallest to the largest (the teacher can hand out two prepared tables, one to use as a draft). Students could turn these results into a simple column graph of length against size of home range for each animal.

(Note: home range is usually given in hectares (100 hectares = 1 km<sup>2</sup>) (a soccer field is about 1.6–1.8 ha) but sometimes in kilometres.)

#### 5. Making Connections

- Students share their findings with the class. Discuss with the class the fact that the different types of animals do have similar features, e.g. all marsupials and placental mammals have fur; only birds have feathers. This is one of the ways that we can tell what an animal is. Using the tables that students have prepared, now focus on how the different animal types move. The teacher can make a large table on the whiteboard that focuses on how the different animals move and their reproduction (see Table 3).
- Focusing on reproduction, look at the different ways the different animal types have their young. Discuss this with the class—is it always the same way for the same animal type? What about the numbers of young—is this similar for an animal type or different? Discuss why this may be.

Look at the numbers of young across the different animal types (e.g. birds compared to marsupials or mammals, or reptiles compared to marsupials or mammals). Are any trends clear? Why might the trends be? The types of reproduction may relate to how safe the young are when they are born, or to how much the parents might look after the young. Discuss the benefits of the approach used by some marsupials of having ‘supernumerary young’—i.e. too many for the number of teats they have (i.e. the strongest ones will get to a teat and survive).

- Now, look at the table to see whether there is any relationship between how an animal moves and how it reproduces (e.g. birds fly and have eggs; frogs hop and swim and have eggs; reptiles run and walk and have eggs)

(That is, there isn’t really a direct relationship but it may affect where they have

young—e.g. in the water, in a nest high up in a tree, in a burrow in the ground.)

- For the home range table, students determine whether there is a direct relationship between length of the animal and the size of the home range. Do smaller animals have a smaller home range in which they move about in? Discuss this with the class. Did all groups find the same result? If not, think about why not?

## 6. Extension Activity

- Exploring movement even further, students find one animal in the book that undertakes a migration (usually seasonal) and investigate why (a hint is to use the glossary and look at the pages where 'migration/migrate' is mentioned).

Animals that undergo regular seasonal migrations do so either to follow food or water supplies, or to have their young in a more favourable environment where there will be food for the young. Examples are the Murray Cod, Whaleshark, Humpback Whale, Southern Right Whale, Australian Pelican, Gang-gang Cockatoo, Red Wattle Bird and locusts.

- In a class discussion, students could call out the migrating animals they have found and the teacher could write and/or draw them on the whiteboard along with the reason why they migrate.

### ***Funtivity***

#### **Speech Bubbles**

On each animal page in the book there is a photo of the animal. Make up a speech bubble for the pair of animals on each open spread of two pages. Imagine what are they saying to each other? Make it as funny as you can. For example:

The Koala on page 46 says to the Sugar Glider on page 47: 'Hey kid, wanna hang out for a while?' And the Sugar Glider replies 'I'm outa here'.

Or: The Common Bearded Dragon on page 12 says to the Frill-necked Lizard on page 13: 'My beard's way more impressive than yours.' And the Lizard replies 'It's a frill you nong and it's fabulous!'

**Table 1: Characteristics of different animal types**

Question	Fish (name)	Reptile (name)	Frog (name)	Bird (name)	Marsupial (name)	Placental Mammal (name)
What's its skin like?						
How does it move?						
How does it eat?						
How does it reproduce? (e.g. lays eggs, live birth—undeveloped or fully formed, tadpole, larva, etc.)						
How many young does it have?						

**Table 2: Home range size compared against body length (smallest to largest) for ten different marsupials**

No.	Page	Marsupial	Total Body Length (cm)	Home Range (ha)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

**Table 3: How animals move and reproduce**

Animal Type	How It Moves?	How It Reproduces?	Number of Young
<b>Fish</b> <ul style="list-style-type: none"> <li>• Murray cod</li> <li>• Whale shark</li> </ul>			
<b>Reptiles</b> <ul style="list-style-type: none"> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> </ul>			
<b>Frogs</b> <ul style="list-style-type: none"> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> </ul>			
<b>Birds</b> <ul style="list-style-type: none"> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> </ul>			
<b>Monotremes</b> <ul style="list-style-type: none"> <li>• Echidna</li> <li>• Platypus</li> </ul>			
<b>Marsupials</b> <ul style="list-style-type: none"> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> </ul>			
<b>Placental Mammals</b> <ul style="list-style-type: none"> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> <li>• xxxxxxxx</li> </ul>			